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EXAMINER				
HOLLWEG, THOMAS A				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/573,311

## Applicant(s)

KOP ET AL.

## Examiner

Thomas A. Hollweg

## Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Abstract***

1. The disclosure is objected to because of the following informalities:

- a. First sentence, the word "tot" is misspelled.

Appropriate correction is required.

### ***Claim Objections***

2. The following claims are objected to because of the following informalities:

- a. Claim 1, the word "tot" is misspelled.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "red percentage LD" in claim 10 is used by the claim to be undefined in the specification or the claims, therefore the term is indefinite.

6. Claims 7, 9, 10 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

8. In the present instance, claims 7 and 11 recite the broad recitation of ranges of phosphor percentages, and the claim also recites specific values of phosphor percentages, which is a narrower statement of the range/limitation. Claim 9 recites the broad recitation of a range of color points, and the claim also recites a specific color point value, which is a narrower statement of the range/limitation. Claim 10 recites the broad recitation of a range of red percentage LD, and the claim also recites a specific value of red percentage LD, which is a narrower statement of the range/limitation.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-8, and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Yano et al., U.S. Patent No. 6,157,126.

11. With regard to claim 1, Yano discloses a fluorescent lamp whereof the fluorescent layer consists of from 1 to 3 phosphors, such that said lamp has a peak wavelength in each of the red, green and deep-red wavelength regions (col. 3, lines 20-28), wherein said phosphors are water-dispersible, and wherein said deep-red phosphor has the same basic structure as a non-activated green, water-dispersible phosphor (col. 9, lines 7-21).

12. With regard to claim 2, Yano discloses that said phosphor having a peak wavelength in the red wavelength region is an  $\text{Eu}^{3+}$  activated phosphor, preferably  $\text{Y}_2\text{O}_3:\text{Eu}^{3+}$  (col. 9, lines 7-21).

13. With regard to claim 3, Yano discloses said phosphor having a peak wavelength in the green wavelength region is a  $\text{Th}^{3+}$  activated phosphor, preferably selected from the group consisting of  $(\text{CeGdMg})\text{Al}_{11}\text{O}_{19}:\text{Tb}^{3+}$ ;  $\text{GdMgB}_5\text{O}_{10}:\text{Ce}^{3+}, \text{Tb}^{2+}$  and  $\text{LaPO}_4:\text{Ce}^{3+}, \text{Tb}^{3+}$  (col. 9, lines 7-21).

14. With regard to claim 4, Yano discloses that said phosphor having a peak wavelength in the deep-red wavelength region is a  $\text{Mn}^{2+}$  activated phosphor, preferably  $(\text{GdMg})\text{B}_5\text{O}_{10}:\text{Ce}^{2+},\text{Mn}^{3+}$  (col. 9, lines 7-21).

15. With regard to claim 5, Yano discloses that said phosphor having a peak wavelength in the deep-red wavelength region is further activated to show a peak wavelength in the green wavelength region (col. 9, lines 7-21)..

16. With regard to claim 6, Yano discloses that said phosphor is a  $\text{Tb}^{3+},\text{Mn}^{2+}$  activated phosphor, preferably  $(\text{GdMg})\text{B}_5\text{O}_{10}:\text{Ce}^{3+},\text{Tb}^{3+},\text{Mn}^{2+}$  (col. 9, lines 7-21).

17. With regard to claim 7, Yano discloses that said phosphors consist of: from 40-70%, preferably 50% b.w. of a red,  $\text{Eu}^{3+}$  activated phosphor, from 10-30%, preferably 17% b.w. of a green  $\text{Tb}^{3+}$  activated phosphor, from 10-50%, preferably 35% b.w. of a deep-red  $\text{Mn}^{2+}$  activated phosphor (col. 3, lines 41-54 & col. 8, lines 3-7).

18. With regard to claim 8, Yano discloses that said  $\text{Mn}^{2+}$  activated phosphor is at least partially replaced by a  $\text{Tb}^{3+},\text{Mn}^{2+}$  activated phosphor (col. 9, lines 7-21).

19. With regard to claim 11, the examiner notes that all of the limitations added by this claim are drawn to a process of manufacturing the lamp which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation has been considered, but not patentably distinct over Yano (see MPEP 2113). The Examiner notes further that Yano discloses all of the structural limitations of claim 11.

20. With regard to claim 12, as discussed in claim 11, all of the limitations added by this claim are drawn to a process of manufacturing the lamp, therefore claim 12 is rejected over Yano, because Yano discloses all of the structural limitations of claim 12.

***Claim Rejections - 35 USC § 103***

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yano as applied to claim 1 above, in view of itself.

23. All of the limitations of claim 9 are disclosed by Yano, as discussed in the rejection of claim 1 above, however, Yano does not expressly disclose that wherein said lamp has a colour point (x, y) wherein x is a number in the range from 0.475 to 0.495, preferably 0.484, and y is a number in the range from 0.390 to 0.405, preferably 0.399.

24. Yano discloses all of the structural limitations and one having ordinary skill in the art would understand that the phosphors in the lamp can be selected and tuned for specific color output. Further, it has been held that where the general limitations of the claim are taught by the prior art, discovering an optimum or workable range involves only routine skill in the art (*In re Aller*, 105 USPQ 233 (CCPA 1955)).

25. Therefore, at the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the lamp disclosed by Yano where the lamp

has a colour point (x, y) wherein x is a number in the range from 0.475 to 0.495, preferably 0.484, and y is a number in the range from 0.390 to 0.405, preferably 0.399.

***Conclusion***

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Hollweg whose telephone number is (571) 270-1739. The examiner can normally be reached on Monday through Friday 7:30am-5:00pm E.S.T..

27. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

28. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TH/

/Sikha Roy/  
Primary Examiner, Art Unit 2879